



# ENVIRONMENT STRATEGY AND IMPLEMENTATION PLAN 2018-22







OUR VISION

*World-leading stewards of the natural  
environment and sustainable communities*

---

*He kaitiakitanga mo te tai ao*





## Why develop a strategy?

New Zealanders are concerned about the declining natural environment and our climate is changing. Consumers are also expecting more, and disruptive technologies are challenging our existing systems and processes. But sheep and beef farmers are up to the challenge.

Every challenge brings an opportunity, and our Environment Strategy aims to turn today's pressures into tomorrow's opportunities.

Agriculture is inextricably linked to the natural environment, which means how we farm today will directly affect what's left for tomorrow. Farmers have two choices about how they farm – be part of the problem, or be part of the solution. Our sheep and beef farmers are determined to be part of the solution, and this document outlines how.

The following pages set out:

- where the sector is now
- where the sector wants to go
- the steps needed to bridge the gap

## Who is the strategy for?

**For farmers** – this document outlines how farmers can connect their individual actions to the wider context. Not all parts of this strategy will be relevant to all farmers – but each farmer should be able to find sections that they can incorporate into their own farm management. Many hands make light work after all.

**For government** – the sheep and beef sector is committed to working with government to achieve our environmental objectives.

**For New Zealanders** – the sheep and beef sector recognises it has a role to play both now and for future generations.

**For partners** – B+LNZ will partner with others, including the dairy sector, scientists, environmental NGOs, and Tangata Whenua to support farmers and bring about change.



## The key components to how we will work

The natural environment is a complex system. So too are people and communities. To be part of the solution, the sector plans to take a 'whole of system' approach, by optimising each farm to function within the rhythms of the land, within the taiao (environment).

There are two key components of the Environment Strategy that will enable this whole of system approach. These are:

- A new generation of tailored and farm specific plans to prioritise and target actions; and
- Connected people working together to prioritise and target collective actions at the catchment scale.

We can't do this alone - partnerships are key to our success. B+LNZ and farmers will collaborate with partners from a range of backgrounds. We will also prioritise our actions to match regional and practical priorities.

## What comes next?

This document is just the start to our journey. The strategy outlines our longer term vision and the implementation plan lays out our immediate next steps through to 2022. But there is so much more that the sector wants and plans to do.

While consulting on this document, many great ideas for partnerships and projects were identified. B+LNZ will work with people from all backgrounds to turn these ideas and others into future iterations of the environment strategy and implementation plan, both before and after 2022.





# Where we are

Since the 1990s, the sheep and beef sector has made major productivity and eco-efficiency gains and is producing more from less.<sup>1,2</sup>

Sheep numbers have dropped from 57.9 million to 27.6 million (-52%); resulting in significant reductions in GHG emissions; but lamb export volumes have only declined 8%.



Compared to 1990:

Land under sheep and beef farming

↓ **28%**

Beef cattle numbers

↓ **23%**

Sector contribution to GDP has doubled

↑ **\$5 billion**

Absolute greenhouse gas emissions from sheep and beef farms

↓ **30%**

Exceeding New Zealand's international commitment of 11% below 1990 levels by 2030.

GHG emissions per kilogram of saleable product

↓ **40%**

Nitrate leaching per kilogram of saleable product

↓ **21%**

But sheep and beef farmers recognise that there is still work to be done, especially around erosion, sediment loss and climate change.



# now...

## Water

- The key potential water contaminants for the sheep and beef sector are sediment, phosphorus (P) and faecal microorganisms.<sup>3</sup>
- By comparison, nitrogen (N) losses from sheep and beef farm systems are generally lower than other agricultural sectors – mostly due to lower N fertiliser use and lower stocking rates.<sup>3</sup> However, N still needs to be understood and managed.
- Contaminant losses on sheep and beef farms often occur over short timeframes and/or from small areas of the farm, particularly when areas of high contaminant concentration and overland water flow coincide.<sup>4</sup> These parts of the farm are called Critical Source Areas.
- Critical Source Areas can be identified through farm planning and then targeted with appropriate and considered mitigation strategies to prevent contaminant loss.
- Targeted approaches can be more cost effective at decreasing contaminant loss than blanket mitigation strategies applied at the catchment scale or broader.<sup>5,6,7</sup>

## Carbon emissions

- New Zealand's emissions profile differs markedly from other developed countries. Nearly half of its emissions (47.9%) are from agriculture (more than any other developed country).<sup>8</sup>
- Absolute emissions for the sheep and beef sector have been steadily declining for more than 20 years and are currently sitting 30% below 1990 levels.<sup>9</sup>
- Analysis has indicated that tree planting offers an opportunity to advance towards carbon neutrality. Sheep and beef farmers recognise this opportunity and are motivated to work in an equal partnership with the government to plant trees where it makes sense to do so – environmentally and economically – resulting in diversified land use and income streams for the sector.

## Biodiversity

- High market prices caused farmers to convert forest to pasture during the 1950s wool boom, and government subsidies for pastoral farming had the same effect in the 1970s and early 1980s. As recently as the late 1980s, around 2,000 hectares were being cleared annually for farmland.<sup>10</sup>
- Now, nearly half of all QEII National Trust covenants are found on sheep and beef farms (47%) and the area of sheep and beef land protected under QEII, Ngā Whenua Rāhui and other covenants is growing.<sup>11,12</sup>
- Nearly one quarter of New Zealand's native habitat is on sheep and beef farms (2.7 million hectares, which is 24% of the New Zealand total).<sup>13</sup>
- Sheep and beef farms help to protect some of the lower altitude plant communities that are poorly represented within New Zealand's national parks.<sup>14</sup>
- Wetlands (excluding lakes and rivers) have been significantly impacted by human settlement, and wetlands are amongst the most reduced of all New Zealand ecosystems with an estimated 10% remaining today. Sheep and beef farms provide an opportunity for restoration of those wetlands. There are significant sheep and beef farm wetland areas in the Bay of Plenty and Gisborne regions with native vegetation and ecological values of national importance. There is an opportunity to extend this to other regions of New Zealand.

## Soils

- Soil erosion modeling and measurement indicates New Zealand loses large amounts of soil into waterways and the ocean each year. A significant portion of that loss occurs on pasture lands.
- Some of the higher risk activities for the sheep and beef sector include hill country development and intensive winter grazing.
- Farmers are actively addressing erosion prone land, through forestry, retirement fencing, poplar planting, controlled reversion, and stocking policies.

# Environment Strategy 2018-22

## OUR VISION:

*World-leading stewards of the natural environment and sustainable communities*



### CLEANER WATER

**Goal:** Sheep and beef farmers actively manage their properties to improve freshwater. New Zealanders can gather food from and swim in freshwater surrounding our farms.



### CARBON NEUTRAL

**Goal:** Farmers continue reducing carbon emissions, moving towards a carbon neutral sheep and beef sector by 2050.



### THRIVING BIODIVERSITY

**Goal:** Sheep and beef farms provide habitats that support biodiversity and protect our native species.



### HEALTHY PRODUCTIVE SOILS

**Goal:** Land use is closely matched to soil potential and capability. Farmers are working to improve soil health, carbon content and productivity while minimising soil loss.





## *He kaitiakitanga mo te tai ao*

---

### HOW WE WILL WORK:

**It starts with the individual farmer**—our starting point is to equip our farmers with the knowledge, tools, and incentives to best manage their resources and make change if that is required.



**Catchment programmes are a critical tool for scaling up impact**—farmers working together with a wider community of stakeholders and with expert support is a proven method to make change at greater scale.



**All of us are stakeholders**—we will involve the wider NZ community and our customers in our programmes to share the problems, identify opportunities, work together to implement solutions, and take pride in our success.

---

### WE WILL HAVE SUCCEEDED WHEN:

- NZ farmers optimise the natural resources of their farms to profitably produce high quality food and fibre.
- Every farmer has a plan for managing the environmental risks and opportunities on their farm.
- The sector is open about our challenges and talks about how we are addressing them.
- Farming landscapes are biologically diverse, freshwater quality is protected, our soils are healthy, and the sector has a carbon footprint that is sustainable in the long term.
- NZ farmers have the confidence and ability to demonstrate their contribution to the environment.





**BY FARMERS.  
FOR FARMERS**



# The Implementation Plan

Achieving our vision will take many years. We will focus on the following projects from 2018-22. The Implementation Plan is built on nine foundations. These foundations are woven together to deliver the Environment Strategy.

Foundations	 <b>CLEANER WATER</b>	 <b>CARBON NEUTRAL</b>			
<b>1.</b> An active plan on every farm	<ul style="list-style-type: none"> <li>Updating the LEP template</li> <li>Actively supporting farmer uptake and action - all sheep and beef farmers to have a plan by 2021</li> <li>Integrating the B+LNZ LEP and New Zealand Farm Assurance Programmes</li> <li>Providing follow up support</li> </ul>				
<b>2.</b> Work together in Catchment Communities	<ul style="list-style-type: none"> <li>Establish a Collaborative Catchment Communities programme to help communities work together to target water quality, greenhouse gas emissions, biodiversity, and soil health issues.</li> </ul>				
<b>3.</b> Support farmer action	<p>3.1 Develop extension programmes to support farmer knowledge and capability in water, carbon, biodiversity and soils.</p> <p>3.2 Provide access to farmer decision support tools, such as LUCI and MitAgator.</p> <table border="1" data-bbox="475 974 1442 1124"> <tr> <td data-bbox="475 974 951 1124"> <p>3.3 Deliver Freshwater Improvement Fund.</p> <p>3.4 Deliver Working for the Waikato project.</p> </td> <td data-bbox="951 974 1442 1124"> <p>3.5 Develop greenhouse gas calculator. +</p> </td> </tr> </table>			<p>3.3 Deliver Freshwater Improvement Fund.</p> <p>3.4 Deliver Working for the Waikato project.</p>	<p>3.5 Develop greenhouse gas calculator. +</p>
<p>3.3 Deliver Freshwater Improvement Fund.</p> <p>3.4 Deliver Working for the Waikato project.</p>	<p>3.5 Develop greenhouse gas calculator. +</p>				
<b>4.</b> Research to support evidence-based action and policy	<p>4.1 Apply OVERSEER® to Sheep and Beef Farms.</p> <p>4.2 Confirm sheep and beef farm eco-efficiency measures.</p> <p>4.3 Identify sheep and beef farm ecosystem services.</p> <p>4.4 Support ongoing development of Land Use Classification (LUC).</p> <table border="1" data-bbox="475 1272 1442 1503"> <tr> <td data-bbox="475 1272 951 1503"> <p>4.5 Understand sector contribution to water quality. +</p> </td> <td data-bbox="951 1272 1442 1503"> <p>4.6 Measure carbon sink in vegetation on sheep and beef farms.</p> <p>4.7 Develop long-term mitigation options through the Pastoral Greenhouse Gas Research Consortium.</p> <p>4.8 Study on-farm greenhouse-gas management practices.</p> </td> </tr> </table>			<p>4.5 Understand sector contribution to water quality. +</p>	<p>4.6 Measure carbon sink in vegetation on sheep and beef farms.</p> <p>4.7 Develop long-term mitigation options through the Pastoral Greenhouse Gas Research Consortium.</p> <p>4.8 Study on-farm greenhouse-gas management practices.</p>
<p>4.5 Understand sector contribution to water quality. +</p>	<p>4.6 Measure carbon sink in vegetation on sheep and beef farms.</p> <p>4.7 Develop long-term mitigation options through the Pastoral Greenhouse Gas Research Consortium.</p> <p>4.8 Study on-farm greenhouse-gas management practices.</p>				
<b>5.</b> Active engagement in policy discussions	<p>5.1 Contribute to regional planning.</p> <p>5.2 Contribute to national policy and legislation development.</p>				
<b>6.</b> Enable farmer leadership	<p>6.1 Support Farmer Reference Group to drive change across the sheep and beef sector.</p> <p>6.2 Apply environmental best practice via the B+LNZ Future Farm.</p>				
<b>7.</b> Tell farmers' stories	<p>7.1 Interactive map of farmer stories covering action on water, carbon, biodiversity and soils.</p> <p>7.2 Use evidence and facts to support farmer experiences and equip farmers to tell their own stories.</p>				
<b>8.</b> Be held accountable	<p>8.1 Develop SMART goals for water quality, carbon and GHG emissions, biodiversity, and soil health, erosion and sediment loss.</p>				
<b>9.</b> Represent our industry globally	<p>9.1 Board member for Global Roundtable for Sustainable Beef</p> <p>9.2 Supporting NZ's commitment to the Food and Agriculture Organisation (FAO)</p> <p>9.3 Affiliate member of Sustainable Agricultural Initiative Platform</p> <p>9.4 Representation on the International Meat Board Secretariat (IMS)</p>				



*Our Implementation Plan is like a Kakahu (cloak). Each element intertwines and communities are the thread that run right through and bind it together.*



**THRIVING BIODIVERSITY**



**HEALTHY PRODUCTIVE SOILS**

	<p>3.6 Deliver hill country sustainability project. <span style="color: blue;">+</span></p> <p>3.7 Deliver Canterbury hill country development project. <span style="color: blue;">+</span> <span style="color: blue;">+</span> <span style="color: blue;">+</span></p>
4.9 Understand native vegetation on farms and identify biodiversity priorities.	<p>4.10 Complete stocktake of soil health and structure.</p> <p>4.11 Understand sector contribution to erosion and sediment loss, and identify hotspot catchments. <span style="color: blue;">+</span></p> <p>4.12 Partner to support water contaminant research. <span style="color: blue;">+</span></p>



## CLEANER WATER

*Goal: Sheep and beef farmers actively manage their properties to improve freshwater. New Zealanders can gather food from and swim in freshwater surrounding our farms.*



## PROFITABLE FARMS

Our Implementation Plan is like a Kakahu (cloak). Each element intertwines. Communities are the thread that binds it together.

## CARBON NEUTRAL

*Goal: Farmers continue reducing carbon emissions, moving towards a carbon neutral sheep and beef sector by 2050.*



## THRIVING BIODIVERSITY

*Goal: Sheep and beef farms provide habitats that support biodiversity and protect our native species.*



## HEALTHY PRODUCTIVE SOILS

*Goal: Land use is closely matched to soil potential and capability. Farmers are working to improve soil health, carbon content and productivity while minimising soil loss.*



## COMMUNITY

partnerships are fundamental to achieving positive environmental outcomes at scale across New Zealand.



# THRIVING FARMING COMMUNITIES

B+LNZ's strategy will  
**EQUIP FARMERS**  
with the knowledge,  
tools and support  
to best manage  
their resources  
and make  
change.

## COLLABORATION

will weave individual efforts together across communities, targeting catchment scale environmental objectives.



BY FARMERS.  
FOR FARMERS







# *The Implementation Plan*

---

2018-22



## Foundation 1

# 1. An active plan on every farm



Tailored and farm specific management plans are a key tool to deliver on the Environment Strategy. B+LNZ is significantly revising its farm planning<sup>15</sup> programme with key activities, including:

- **Updating the LEP template** - to include carbon, soil and biodiversity. Focus on-farm management actions to address critical source areas (CSA) and critical flow pathways.
- **Actively supporting farmer uptake and action** - The goal is for all sheep and beef farmers to have and be implementing an LEP by the end of 2021;
- **Integrating the B+LNZ LEP and New Zealand Farm Assurance Programmes** - less paperwork, streamlined processes, and financial reward for those farmers working above compliance requirements.
- **Providing follow up support** - At least 75% of famers<sup>16</sup> have said they want additional support after attending a B+LNZ farm planning workshop. The Red Meat Profit Partnership (RMPP) Action Network will play a key role in this.

2018	2019	2020	2021
Develop/ co-design new programme	Deliver/ implement		

## Foundation 2

# 2. Work together in catchment communities



Collaborative catchment communities and partnerships are fundamental to achieving positive environmental outcomes at scale across New Zealand. With this strategy, B+LNZ will help communities weave their individual efforts together to target catchment scale environmental objectives.

In partnership with government, other industries (e.g. dairy), and environmental groups, B+LNZ intends to develop and launch a programme that will:

- Connect communities with the natural resources and limitations of their catchment;
- Help farmers identify on farm actions to achieve catchment scale priorities;
- Connect catchment communities with partnership and funding opportunities; and
- Collect and share information and ideas across New Zealand.

2018	2019	2020	2021
Develop/ co-design new programme	Deliver/ implement		

### 3. Support farmer action



#### 3.1 Extension to support farmer knowledge and capability

B+LNZ’s extension programmes– coupled with partnerships, new tools and services – will support farmers to work towards the sector’s vision of success. B+LNZ is working to integrate environmental considerations into every aspect of research and extension.

Extension programmes will be designed to include:

- Understanding on-farm terrestrial and freshwater environments, soil health, and greenhouse gas emissions profile;
- Understanding the opportunities and risks associated with carbon farming;
- Protecting and enhancing terrestrial biodiversity on farms;
- Adapting to a changing climate;
- Winter grazing management; and
- Hill country development.

2018	2019	2020	2021
Develop/ co-design new programme	Deliver/ implement		

#### 3.2 Farmer decision support tools



B+LNZ has formed strategic partnerships to provide farmers with access to state-of-the-art decision support tools, such as Land Utilisation Capability Indicator (LUCI) and MitAgator. These types of tools will help farmers to incorporate catchment scale environmental objectives into their individual farm plans.

2018	2019	2020	2021
Deliver/ implement			

#### 3.3 Freshwater Improvement Fund



B+LNZ is developing a Fresh Water Improvement Fund project that will be delivered in partnership with the Ministry for the Environment. The project will demonstrate how farmers can improve water quality within four priority catchments (Hawke’s Bay, Wairarapa, Otago and Southland). Running until 2021, the project will also focus on building environmental leadership across the sheep and beef sector.

2018	2019	2020	2021
Deliver/ implement			

#### 3.4 Working for the Waikato



This demonstration project, delivered in partnership with the Waikato River Authority<sup>17</sup>, was started in 2016 and aims to improve water quality within the Waikato region. It is also designed to raise farmer awareness about the environmental pressures within the region and provide tools, advice and support to address these issues.

2018	2019	2020	2021
Deliver/ implement			



### 3.5 Greenhouse gas calculator



In partnership with key stakeholders, B+LNZ is developing a greenhouse gas calculator to help farmers calculate their emissions, and identify options to adjust their profile (such as through production changes).

2018	2019	2020	2021
Develop/ co-design	Deliver/ implement		

### 3.6 Hill country sustainability project



B+LNZ has entered into a five-year partnership agreement with the Ministry of Business, Innovation and Employment to deliver a targeted programme to support smart use of hill country. Cofounded by PGG Wrightson and Seed Force New Zealand, the programme is focused on developing vibrant rural communities by giving insight into the value and smart use of physical resources on farm. The programme will also demonstrate profitability aspects from productivity through adoption of innovative socioeconomic and environmental management on hill country farms.

2018	2019	2020	2021
Develop/ co-design new programme	Deliver/ implement		

### 3.7 Canterbury hill country development project



B+LNZ has partnered with Environment Canterbury and the Ministry for the Environment to investigate farmer decisions - i.e. why they choose specific hill country development techniques. This information will then be used to design tools to help mitigate environmental risks associated with hill country development.

2018	2019	2020	2021
Deliver/ implement			



## 4. Research to support evidence-based action and policy

Good quality evidence is essential to inform effective on-farm action, as well as policy design.

### 4.1 Apply OVERSEER® to Sheep and Beef Farms



B+LNZ is developing OVERSEER® nutrient budgets on a representative sample of farms, to better understand the contaminant discharge profile (greenhouse gases, nitrogen and phosphorous) at a farm level. The information will sit alongside farm production data to help inform how financial and environmental profiles align across B+LNZ's eight farm classes<sup>18</sup>.

2018	2019	2020	2021
Ongoing			

### 4.2 Confirm eco-efficiency measures



In 2012, AgResearch published work about the increasing eco-efficiency of the sheep and beef sector. B+LNZ has commissioned an update of this work, so it remains relevant for regional and central government policy.

2018	2019	2020	2021
Deliver/ implement			

### 4.3 Identify ecosystem services



Ecosystem services are the many and varied benefits that humans gain from the natural environment. B+LNZ has commissioned Landcare Research to quantify the ecosystem services associated with New Zealand's sheep and beef farms.

2018	2019	2020	2021
Deliver/ implement			

### 4.4 Support ongoing development of Land Use Classification (LUC)



LUC is an existing New Zealand land use classification system that can support decisions around land use change. B+LNZ supports the use of a natural capital basis for allocating nutrient discharge, and LUC lends itself to being used as a proxy for natural capital. B+LNZ will engage with scientists as they work to continually improve LUC.

2018	2019	2020	2021
Ongoing			



#### 4.5 Understand sector contribution to water quality



B+LNZ will commission research to better understand the sector’s contribution to water quality. This research will help B+LNZ work with regional councils and the Government to develop appropriate guidelines and regulation (where necessary) to achieve desired environmental outcomes.

2018	2019	2020	2021
Deliver/ implement			

#### 4.6 Measure carbon sink in vegetation on sheep and beef farms



Sheep and beef farms cover diverse landscapes, with numerous trees scattered across them. Many of these trees – whether they are shelterbelts, riparian plantings, erosion management plantings or blocks of native vegetation – are not counted in the Emissions Trading Scheme (ETS).<sup>19</sup> B+LNZ will work with others to quantify the total carbon sink on sheep and beef farms (both inside and out of the ETS) to help inform government policy decisions.

2018	2019	2020	2021
Deliver/ implement			

#### 4.7 Pastoral Greenhouse Gas Research Consortium



As one of eight partners in the Pastoral Greenhouse Gas Research Consortium (PGgRc), B+LNZ will continue to invest in developing long-term mitigation options for farmers. PGgRc spends about \$5m annually on its programme of methane-reducing technologies and practices. PGgRc is specifically focusing on low-methane producing animals, low-methane feeds, a methane vaccine and methane inhibitors. PGgRc is also a member of the MPI-funded New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC).



2018	2019	2020	2021
Ongoing			

#### 4.8 Study on-farm greenhouse-gas management practices



A partnership project with AgResearch, funded through the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC), to examine current on-farm practices and the effect these have on a farm’s GHG emissions profile.

2018	2019	2020	2021
Ongoing			

## 4.9 Understand vegetation on farms and identify biodiversity priorities



B+LNZ has undertaken a high-level analysis of native vegetation on sheep and beef farms to help understand the sector's threats and opportunities around native vegetation management. The next step is to then understand habitat quality. With both quality and geographical distribution understood, B+LNZ can begin to identify biodiversity hotspots and investment priorities. Both sets of information will support extension and policy activities.

2018	2019	2020	2021
Deliver/ implement			

## 4.10 Stocktake of soil health and structure



Soil health is fundamental to a profitable and resilient sheep and beef sector, yet we have very little information about soil health across the sector. This research will inform evidence-based policy, shape future extension programmes and help B+LNZ to target resources.

2018	2019	2020	2021
	Deliver/ implement		

## 4.11 Understand sector contribution to erosion and sediment loss and identify hotspot catchments



Focusing efforts on reducing erosion and sediment loss is a high payoff activity for the red meat sector. However, no one has quantified different sectors' contribution to erosion and sediment loss at the national scale. B+LNZ will work with leading experts to understand the sector's contributions and hotspot catchments to help inform evidence-based policy and prioritise B+LNZ extension activities to address these issues.

2018	2019	2020	2021
Deliver/ implement			

## 4.12 Partner to support water contaminant research



Leading scientists and scientific research institutes are developing new thinking and research around Critical Source Areas, critical flow pathways and attenuation. Given how important this information is to the sheep and beef sector, B+LNZ plans to form strategic partnerships with researchers to inform B+LNZ extension activities and policy development.

2018	2019	2020	2021
Deliver/ implement			



*Foundation 5*

## 5. Active engagement in policy discussions

Achieving improved environmental outcomes is a multi-pronged approach, of which regulation is an integral part. Well-designed policy creates incentives and results in actions that improve environmental outcomes across all four pillars.

B+LNZ will continue to:

- Build relationships with key stakeholders and partners;
- Work closely with central and local government to help co-design effective policy and methods; and
- Use evidence collected under foundation four to support robust policy outcomes.

### 5.1 Contribute to regional planning



B+LNZ will continue to build cases that provide for land use flexibility, profitability, and encourages farmer innovation, adaptability and resilience, while achieving the environmental outcomes sought by decision makers, regulators and communities.

B+LNZ will also continue to support farmers through regional planning processes, via workshops, online resources and access to its team of experts.

2018	2019	2020	2021
Ongoing			

### 5.2 Contribute to national policy and legislation



B+LNZ will continue to work with central Government to achieve policy and legislation that results in improved environmental outcomes.

Working in partnership with other key stakeholders, B+LNZ's 2018 /2019 focus will be contributing towards policy development and discussions around:

- Freshwater;
- Indigenous biodiversity;
- Greenhouse gas emissions;
- Hill country development; and
- Intensive winter grazing.

2018	2019	2020	2021
Ongoing			

Foundation 6

## 6. Enable farmer leadership

B+LNZ will support farmer leadership and demonstration of best practice. Activities will include:

### 6.1 Support Environment Farmer Reference Group to drive change



The Environment Farmer Reference Group, comprising farmer leaders from across New Zealand, help to guide B+LNZ environment activities and extend B+LNZ’s environment programme to the farming community.

2018	2019	2020	2021
Ongoing			

### 6.2 Apply environmental best practice via the B+LNZ Future Farm



B+LNZ is leasing a hill country sheep and beef property as a Future Farm. Its purpose is to apply new technologies and systems, and to show how these impact on performance, while achieving the highest profit and environmental best practice. Resulting information will be freely available to support farmer decision making. This will speed up knowledge transfer between farmers and support honest reporting on the sector’s environmental performance.

2018	2019	2020	2021
Ongoing			

Case Study

### PASSION AND INNOVATION PROTECTING TREASURED LAND

Southland sheep farmers Gay and Ron Munro have two QEII-covenanted areas – a peatbog with regenerating forest (64ha) on their farm and the other a nearby wetland area (89ha), adjoining a Department of Conservation reserve.

The Munros registered the first covenant on their farm in 1990, making open water areas, which have become home to eels and a stronghold for the giant kokopu – a rare native New Zealand fish.

Southland QEII rep at the time, Roger Sutton, said: “If you create habitat, the wildlife will come.” He was right.

These days, Gay and Ron are passing on their love of nature to their family. “It’s not just a farm, it’s a way of life, and very special to us.”



Photo and story (abridged) courtesy of QEII National Trust Open Spaces magazine, Nov 2017



## 7. Tell farmers' stories

### 7.1 Interactive map of farmer stories covering action on water, carbon, biodiversity and soils



B+LNZ will develop an interactive, map-based platform to share farmers' stories and knowledge around improving outcomes for their farms and the environment. The map will capture and share on-the-ground progress towards environmental goals. Initially, the map will be relatively simple, but refined and added to over time.

2018	2019	2020	2021
Develop/ co-design	Deliver/ implement/ iterate		

### 7.2 Using evidence to support farmer experiences



B+LNZ will share the sector's stories using evidence collected to inform policy development and extension programmes. These stories will be shared via multiple channels including social media, factsheets, news articles, videos etc. B+LNZ also wants to work with farmers to help them tell their story themselves.

2018	2019	2020	2021
Ongoing			

### Case Study

#### FARM ENVIRONMENT PLANS PRACTICAL AND CRITICAL

Through Farm Environment Plans, B+LNZ provides practical guidance to address environmental issues at a farm level.

The High Country Lake Catchments Environment Project began in 2014 and worked with three Otago stations - Mt Aspiring, Mt Burke and Rees Valley - with the aim of advancing environmental sustainability in challenging conditions.

The two-year project aimed to add value to runholders' farm systems and environmental management, while also raising wider farmer awareness around regional council-set nutrient loss limits.

Year one of the project focused on building an advanced Level 3 Farm Environment Plan and nutrient management plan (using OVERSEER®) for each station.

Year two identified key mitigation strategies on-farm, then testing the predictions from OVERSEER® and modelling farm financial performance, in light of the council-set limits.

#### Key findings

- Meeting blunt rules focused on whole-farm contaminant losses can have dire effects on farm profitability.
- In some cases, the costs associated with improving farm environmental management can be mitigated by farm system changes to increase the economic farm surplus.
- A range of simple, tailored environmental mitigations can be identified by Farm Environment Planning and adopted to improve water quality at little cost to the farm business.
- Opportunities that complement farming - such as eco-tourism - are worth exploring to add resilience to farming systems that face nutrient limits.
- Ultimately, environmental improvements can only be made by the people on farm. Farm Environment Plans are a critical tool.



## 8. Be held accountable

Accountability and performance measurement drive improvement.

### 8.1 Develop SMART<sup>20</sup> goals for water quality, carbon and GHG emissions, biodiversity, and soil health, erosion and sediment loss.



Transparency is central to the sheep and beef sector’s ethos. In consultation with farmers, government and other partners, B+LNZ will develop measurable goals to sit under each of the four pillars so New Zealand can see how the sector is progressing. Outcomes – not outputs – will be measured, and aggregated farm planning data will be one of the methods used to collect data. This work will also link to B+LNZ’s commitments under the “Good Farming Practice – Action Plan for Water”.

2018	2019	2020	2021
Develop/ co-design	Deliver/ implement/ iterate		

### Case Study

#### ENGAGED FARMERS: A RECIPE FOR SUCCESS

The iconic Rere Falls and Rockslide near Gisborne is a popular recreational spot on the Wharekopae River. However, E coli contamination compromises water quality to the extent that permanent signage warns people of the health risks and not to swim there.

Three years ago, B+LNZ, the Gisborne District Council, Ministry for the Environment and Rere farmers formed a collaboration to bring water quality up to a swimmable standard. The project is in its early stages and there are still further on farm practice improvements to be made but over time it is hoped that e-coli levels will improve. The importance of this project is, that virtually all farmers in the catchment came together to develop a plan to improve the water quality situation.

#### Farmers taking action

Farmers Mark and Annie Gemmell own Mokonui Station, which borders the Wharekopae River 4km upstream from the rockslide. The 980ha property includes many creeks that feed into the river and 220ha of native bush. It runs 7500 stock units with a 50/50 mix of sheep and beef.



The couple and their son Sam – the third generation to run the farm – were involved in the Rere project from the outset.

Gemmells now regularly refer to their Farm Environment Plan to guide how they can lessen environmental risks to the river.

“Our involvement in this project and developing a farm plan has made us aware of what we need to keep monitoring and look out for to try and improve water quality.”

#### Make clear gains and measure progress

When it comes to improving water quality, AgResearch Environmental Scientist Dr Richard Muirhead has three key messages:

1. Work as a catchment.
2. Find a catchment that has successfully addressed the issues you are facing.
3. Involve local iwi and the wider community



## 9. Represent our industry globally



International leadership ensures New Zealand farmers have a global voice and presence, can influence global rules around sustainability, and understand international developments that may be relevant domestically.

B+LNZ experts will continue to represent New Zealand at the:

### 9.1 Global Roundtable for Sustainable Beef

B+LNZ is a board member of the Global Roundtable for Sustainable Beef. The roundtable focuses on continuous improvement across all aspects of sustainability, including environmental, economic, social and cultural. B+LNZ is working with others to establish a New Zealand-specific Roundtable.

### 9.2 Food and Agricultural Organisation (FAO)

New Zealand has responsibilities as an international good citizen. The FAO is the United Nations' specialised agency that leads international efforts to defeat hunger. New Zealand is one of its 194 member states. FAO's goal is to achieve food security for all and ensure people have regular access to enough high-quality food to lead active, healthy lives.

Through the International Meat Secretariat (IMS), B+LNZ has helped fund the LEAP (Livestock Environmental Assessment and Performance) Partnership that sits within FAO. It focuses on improving the environmental performance of livestock supply chains, while ensuring economic and social viability.

### 9.3 Sustainable Agricultural Initiative Platform

B+LNZ is an affiliate member of the Sustainable Agriculture Initiative Platform – an international non-profit organisation that facilitates sharing knowledge and best practice across stakeholders involved in the primary food value chain. B+LNZ contributes New Zealand's experience on sustainable agriculture and ensures our farm systems are recognised for the role they play in managing global environmental issues.

### 9.4 International Meat Secretariat

The IMS is a non-profit organisation that represents the global meat and livestock sector at international level. It promotes:

- the sustainable supply of safe, healthy, high-quality and nutritious animal protein; and
- animal protein's place in a healthy, sustainable diet.

B+LNZ represents the sector and New Zealand's interests, and sits on the IMS Sustainable Meat Committee.

2018	2019	2020	2021
Ongoing			

## References

- <sup>1</sup>A. D. McKay, A. P Rhodes, I. Power and M. E. Wedderburn (2011). Has the Eco-efficiency of sheep and beef farms changed over the last 20 years? Proceedings of the New Zealand Grassland Association 73. 119-124
- <sup>2</sup>Beef + Lamb New Zealand Economic Service
- <sup>3</sup>Wilcock, 2012. Review of water quality impacts of sheep and beef land uses in New Zealand
- <sup>4</sup>Monaghan, R.M., Hedley, M.J., Di, H.J., McDowell, R.W., Cameron, K.C., Ledgard, S.F. 2007. Nutrient management in New Zealand pastures – recent developments and future issues. New Zealand Journal of Agricultural Research 50:2, 181-201
- <sup>5</sup>McDowell, R.W., Srinivasan, M.S. 2009. Identifying critical source areas for water quality: 2. Validating the approach for phosphorus and sediment losses in grazed headwater catchments. Journal of Hydrology 379, 68-80
- <sup>6</sup>Dodd, M.B., McDowell, R.W., Quinn, J.M. 2016. A review of contaminant losses to water from pastoral hill lands and mitigation options. Hill Country – Grassland Research and Practice Series 16, 137-148
- <sup>7</sup>Schierlitz, C., Dymond, J., Shepherd, J. 2006. Erosion/sedimentation in the Manawatu catchment associated with scenarios of whole farm plans. Landcare Research Contract Report LC0607/028 to Horizons, September 2006. 10p
- <sup>8</sup>New Zealand Productivity Commission. (2018). Low-emissions economy: Draft report. Available from [www.productivity.govt.nz/inquiry-content/low-emissions-draft-report](http://www.productivity.govt.nz/inquiry-content/low-emissions-draft-report)
- <sup>9</sup>Ministry for the Environment. 2018. New Zealand's Greenhouse Gas Inventory, 1990-2016
- <sup>10</sup>Ministry for the Environment. The State of New Zealand's Environment 1997
- <sup>11</sup>Frank Scrimgeour, Vijay Kumar, and Glenn Weenink. February 2017. Investment in covenant land conservation report. Waikato University Institute for Business Research.
- <sup>12</sup>QEII National Trust
- <sup>13</sup>Norton, D. Parnell, J. 2018. Desk-top assessment of native vegetation on sheep and beef farms across New Zealand. Unpublished.
- <sup>14</sup>Robertson, H. A. (2016) Wetland reserves in New Zealand: the status of protected areas between 1990 and 2013. New Zealand Journal of Ecology, Vol. 40, No. 1.
- <sup>15</sup>Farm planning is the generic term used to cover Farm Environment Plans (FEP), Land and Environment Plans (LEP1, LEP2, LEP3), and Farm Environment Management Plans (FEMP).
- <sup>16</sup>UMR Research, December 2017: Evaluation of the LEP/FEP workshops
- <sup>17</sup>The Waikato River Authority is a statutory body formed under the *Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010*, the *Ngati Tuwharetoa, Raukawa, and Te Arawa River Iwi Waikato River Act 2010*, and with additional responsibilities arising from the *Nga Wai o Maniapoto (Waipa River) Act 2012*, and He Mahere Taiao – The Maniapoto Iwi Environmental Management Plan.
- <sup>18</sup>B+LNZ categorises survey farms into one of eight farm classes. Farm classes are defined on the B+LNZ website at <https://beeflambnz.com/data-tools/farm-classes>
- <sup>19</sup>At least 1ha of trees in any individual area (can include woodlots). Comprises a forest species capable of reaching 5m in height at maturity in the place they are growing. Is planted at or at a stocking density that has the ability to exceed a tree crown cover of more than 30% on each hectare.
- <sup>20</sup>SMART goals are Specific, Measurable, Achievable, Relevant, and Time bound.





beef+lamb  
new zealand

BY FARMERS.  
FOR FARMERS